

Amendments to the Claims

The following listing of claims will replace all prior versions and listing of claims in the application. Claims canceled below are canceled without prejudice or disclaimer.

Claims 1-17 (canceled)

18. (currently amended) A method for error handling in a real-time automation system having at least two execution levels, the at least two execution levels comprising different priority levels, the method comprising the step of triggering at least one error reaction function ~~on one of the at least two execution levels~~ in response to at least one of the group consisting of at least one processing error and at least one access error occurring on one of the at least two execution levels, wherein a first error reaction function is triggered by either or both of the at least one processing error and the at least one access error on the same execution level as either or both of the at least one processing error and the at least one access error and wherein a second error reaction function is triggered on one of the at least two execution levels of a lower priority.

Claims 19-21 (canceled)

22. (currently amended) The method according to claim 18, wherein the at least one error reaction function is parameterized before triggering.
23. (currently amended) The method according to claim 18, wherein the at least one error reaction function is programmed before triggering.
24. (canceled)
25. (currently amended) The method according to claim ~~16~~18, wherein the real-time automation system executes high-priority cyclical system functions, whereby the high-

priority cyclical system functions are executed without being influenced by the at least one error reaction function.

26. (currently amended) The method according to claim ~~46~~18, wherein high-priority cyclical system functions are continued without being aborted when an error reaction function is executed.
27. (currently amended) The method according to claim ~~46~~18, wherein functions that comprise an error are aborted, whereby reliable behavior of the automation system is ensured.
28. (currently amended) The method according to claim ~~46~~18, wherein the real-time automation system executes non-cyclical functions, the non-cyclical functions that comprise an error are aborted, and aborted non-cyclical functions are restarted, taking a respectively preceding terminated non-cyclical function as a basis.
29. (currently amended) The method according to claim ~~46~~18, wherein in the event of an occurrence of errors in cyclical functions, the automation system is stopped.
30. (currently amended) The method according to claim ~~46~~18, wherein in the event of an occurrence of errors due to the automation system, a consistent system behavior is produced without stopping the automation system.
31. (currently amended) The method according to claim ~~4~~18, wherein the real-time automation system comprises at least one of the group consisting of a machine tool and a production machine.
32. (currently amended) A real-time automation system capable of running a plurality of tasks having different priority levels, the automation system comprising:
 - a plurality of execution levels each comprising a different priority level, wherein the plurality of tasks are assigned to the plurality of execution levels based on the priority level associated with each of the plurality of tasks; and

at least one error reaction function for handling an occurrence of at least one of the group consisting of at least one processing error and at least one access error in one of the plurality of tasks assigned to one of the plurality of execution levels, wherein a first error reaction function is executed on the same execution level as the one of the plurality of tasks in which either or both of the at least one processing error and the at least one access error has occurred and wherein a second ~~the at least one~~ error reaction function is executed on one of the plurality of execution levels comprising a lower priority than the one of the plurality of tasks in which either or both of the at least one processing error and the at least one access ~~the at least one~~ error has occurred.

33. (currently amended) The system according to claim 32, wherein one of the plurality of tasks comprises a high priority task that is not terminated during the occurrence of the at least one of the group consisting of at least one processing error and at least one access error in one of the plurality of tasks assigned to one of the plurality of execution levels.
34. (currently amended) The system according to claim 32, wherein the real-time automation system comprises at least one of the group consisting of a machine tool, a production machine and a motion controller.
35. (previously presented) The system according to claim 32, wherein the at least one error reaction function comprises at least one error processing task comprising a plurality of properties.
36. (currently amended) The system according to claim 35, wherein the plurality of properties comprises a user program for responding to the occurrence of the at least one of the group consisting of at least one processing error and at least one access error, wherein the user program is included in the at least one error reaction function.

- 37. (previously presented) The system according to claim 33, wherein the plurality of tasks comprise at least one of the group consisting of non-cyclical tasks, interrupt tasks, and low priority cyclical tasks.
- 38. (previously presented) The system according to claim 33, wherein the high priority task comprises one of the group consisting of a high-priority cyclical task and a high-priority cyclical system task.
- 39. (canceled)
- 40. (new) The system according to claim 32, wherein the at least one error reaction function is parameterized before execution.
- 41. (new) The system according to claim 32, wherein the at least one error reaction function is programmed before execution.
- 42. (new) The system according to claim 38, wherein high-priority cyclical system tasks are executed without being influenced by the at least one error reaction function.
- 43. (new) The system according to claim 32, wherein tasks that comprise an error are aborted, whereby reliable behavior of the automation system is ensured.
- 44. (new) The system according to claim 37, wherein aborted non-cyclical tasks are restarted, taking a respectively preceding terminated non-cyclical task as a basis.
- 45. (new) The system according to claim 37, wherein in the event of an occurrence of errors in cyclical tasks, the automation system is stopped.

46. (new) The system according to claim 32, wherein in the event of an occurrence of errors due to the automation system, a consistent system behavior is produced without stopping the automation system.